

DESIGNING INSTRUCTION

for the



DISTANCE LEARNER

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In response to the changing landscape in higher education, learner preferences and the pervasiveness of technology in our lives, many organizations and educational institutions are providing learning opportunities at a distance. Technological innovations are increasingly being integrated in the learning environment to provide workers with the training opportunities they need to be effective and efficient. With the Internet and digital technologies' rapid growth, the Web has become a powerful, global, interactive, dynamic, economic and an autonomous medium of learning and teaching at a distance (Khan, 2005). The Internet provides an opportunity to develop on-demand learning and learner-centered instruction and training. Therefore, distance learning is increasingly becoming a preferred means for individuals to gain access to education and job preparation opportunities; this meets the public's learning needs and that of an ever-changing workforce.

Distance Education Defined

Khan (2005) stated that there are numerous names for distance learning activities, including e-learning, Web-based learning, Web-based instruction,

Web-based training, Internet-based training, distributed learning, advanced distributed learning, distance learning, online learning, mobile learning or nomadic learning, remote learning, off-site learning, and a-learning (anytime, anywhere, anyplace learning).

The Workforce and Distance Education

Over the years, the workforce has been prepared through apprenticeship/internship opportunities, classroom teaching, and company organized in-house training. These methods are based on personal contact between instructor and learners, hence they are time and place dependent. They are also costly to employers, especially if there are travel and accommodation costs involved, or if employees are to be away from regular work while training.

In a precarious job market and shaky economy, coupled with rapid growth of knowledge in many fields, workers will be required to continue learning for their occupations. With the availability of high speed Internet and multimedia technologies, modern organizations are encouraged to consider the use of distance learning as an avenue for increasing access to educational training opportunities, and

improving the skills and competencies of their workforce.

Distance learning opportunities offer more flexible learning hours, thereby allowing the workforce to be able to combine work, studies and family responsibilities. For employers it provides learning environments for professional development opportunities that do not require employees to take time away from work; therefore, this gives employees opportunities to advance their knowledge, skills and ability to learn new business processes while making a living.

Distance Education Technology: Learning Tool for the CTE Educator

In the United States, Canada, and in some European countries, demand for degree programs, continuing professional education, and workplace training delivered via distance methods, has been steadily increasing by an average of around 10 percent per year since 1996. This compares with enrollment increases in traditional education of around 2 to 5 percent per year. These trends have been quite consistent since the advent of Web-based online learning in 1996. Today, the educational community continues to embrace online degree programs and

distance education opportunities; higher education accreditation bodies continue to give distance education accreditations to online schools on the same level as traditional on-campus universities.

During turbulent economic times, most people are likely to change careers at least two or three times. Therefore, job mobility, especially across state and national frontiers, increases. Within particular professions the need for continuing training is rapidly recognized. Due to

budget cuts, massive layoffs and organizational re-engineering efforts, retraining opportunities are expensive. This is why educators are seeking cost-effective ways to prepare the workforce. With technological developments, Cisco Corporation and other organizations like CNN are introducing 3-D imagery and hologram technology to conduct business (Online Degree Talk, 2010). Such inventions will cut costs and save time by providing convenience to learners and instructors,

while supporting lifelong learning activities. With these strides in technology, and the educational opportunities that arise at all levels of schooling, Rowntree (1992) suggests the following criteria might apply to decisions as to how to deliver content over distance using technology.

1. Do any of the learning outcomes dictate certain media?
2. Which media are physically available to the learners and

Open Source Course Management Systems

In addition to Moodle, Dokeos, and Olat, open source course management systems that have offered alternatives to commercial course management systems include:

1. **<http://logicampus.sourceforge.net>:** LogiCampus is a course management Web application system that provides features such as a built-in master calendar, textbook requisitions and many more applications. LogiCampus provides the standard tools for instructors to create their online courses, process assignments, make tests and stay in contact with students.
2. **www.atutor.ca:** ATutor is a content management system and social networking environment software designed with accessibility and adaptability in mind, especially for visually impaired and disabled learners.

Web and Video Conferencing (Open Source) Software

Some of the popular Web conferencing tools include Microsoft Live Meeting, DIMDIM, GoToMeeting, Central Desktop, Adobe Acrobat Connect, Ready Talk, ooVoo, Yuuguu, Yugma, and Glance. These tools support instant text chat, voice as well as video chat. Additionally the following links provide more resources:

1. **<http://code.google.com/p/bigbluebutton>:** BigBlueButton is an open source Web conferencing system that


combines together more than 15 open source packages into a single system, and offers real-time sharing of slides, voice, chat, video, and desktop sharing.

2. **www.tonybates.ca/resources/videos-on-e-learning-and-technology:** Tony Bates provides videos on e-learning and distance education hosted by Bates, president and CEO of Tony Bates Associates Ltd. His is a private company specializing in consultancy and training in the planning and management of e-learning and distance education.
3. **www.softplatz.com/freeware/web-conferencing:** This is an online portal software catalog provided by softplatz.com that offers links to Web conferencing freeware software resources.

Web Resources for Distance Education

1. **www.dspace.org:** DSpace is an open source software that enables open sharing and open access to all types of digital content and data sets that span organizations.
2. **www.kuali.org/about:** Kuali is a growing community of universities, colleges, businesses and other organizations that have partnered to build and sustain open-source administrative software for higher education, by higher education. Kuali software is designed to meet the needs of all sizes of institutions, from land-grant research universities to community colleges.
3. **<http://thinkofit.com>:** This site provides

an independent, objective and comprehensive index of tools and resources in the area of online communication, including conferencing, collaborative work, e-learning and online communities. Both commercial and freeware tools are covered.

4. **<http://ShareMe.com>:** ShareMe has limited free download of Windows shareware, freeware and demo versions of commercial software, games, mp3, DVD, audio, video programs. All software posted are from genuine software authors, and individuals can purchase licensed full version or serial keys if they find software they like.
5. **www.exelearning.org:** The eXe project offers an authoring application to assist teachers and academics in the publishing of Web content, without them needing to become proficient in HTML or XML markup.
6. **www.elgg.org:** Elgg is an open source social networking engine that powers all kinds of social environments, from a campus-wide social network to an internal collaborative platform for organizations.
7. **www.eduforge.org:** Eduforge is an open access environment designed for the sharing of ideas, research outcomes, open content and open source software for education, and hosts more than 300 projects in education from around the world.
8. **<http://oedb.org/library/features/80-oor-tools>:** This site documents up to 80 online resources that individuals can use to learn how to build or participate in collaborative educational environments. 

- convenient for them to use?
3. Are any media likely to help motivate or demotivate learners?
 4. Is the institution or sponsor pressing for certain media to be used?
 5. Do learners have the necessary skills to use the media and, if not, can you train them?
 6. What are the costs to the institution for different media?
 7. What are the costs to the learner?

Tools and Resources that Facilitate Distance Learning

Today, distance education managers and teachers acknowledge that in a learner-centered environment, good tutoring and student support in online environments provide a competitive edge that leads to student retention and increased enrollment. Many academic institutions and instructors seek software packages and newer technologies that supplement teaching at a distance. Instructors want the ability to add audio and video to an online course; they want students to engage in an asynchronous learning environment through desktop video conferencing and other strategies that focus on learner outcomes.

Open source software (such as Moodle, a free Web application course management system that educators can use to create effective online learning sites) is proving to be a worthwhile tool that facilitates learning at a distance. With 9,000 users across two major online learning programs (South Carolina Virtual School Program and eLearningSC PD), in addition to budget woes and the need for flexibility, the South Carolina Department of Education implemented the use of Moodle—which has proven to be a reliable solution that supports its users' individual learning requirements. As a result, both the South Carolina Virtual School Program and eLearningSC PD have seen increased success, with eLearningSC PD's success rate increasing from 93 percent to 97 percent (Foster, 2010).

When choosing online technology, educators and managers should comprehend that the technology should not drive the course, but the desired outcomes and needs of the participants should be the deciding factors. Adhering to Rowntree's (1992) suggestions, educators can utilize open source software to meet their online teaching needs. Open source software is computer software that has a source code available to the general public for use as is or with modifications. This software typically does not require a license fee. Alternatives to open source software are freeware, free software, and shareware. Freeware is software that is made available for everyone to use at no cost. However, the author retains the copyright and users cannot modify the source code unless they get permission to do so. On the other hand, free software can be used, modified, copied and redistributed without restriction and at no cost. Lastly, shareware is a type of software and a way to distribute it. Authors of shareware give users a license to try out the software for a specific period of time (Ontario Ministry of Small Business and Consumer Services, 2008).

Educational software supports learning functions in a variety of settings. But distance education is one of the few areas of education where educational software has been central to the teaching task. Distance education has therefore provided a valuable test bed for understanding the potential and limitations of a wide range of software technologies that support online teaching. The World Wide Web has made this possible by providing a conduit that allows digital materials to be created, stored, accessed and interacted with over the Internet. In the sidebar on page 18 is a list categorized into open source course management systems, Web and video conferencing (open source) software, and Web resources for distance education. Each category describes Web sites that career and technical education (CTE) educators, and workforce organizations,

can utilize in their instruction of distance education-related instructional activities.

Looking Ahead

As technology improves, distance-learning educators will find new ways of incorporating technologies into their course delivery. Individuals, governments and institutions are always introducing educational resources on the Internet that seek to support learning outcomes, streamline business operations, as well as maximize productivity through efficiency. CTE educators have been bestowed with a noble honor of shaping economies as well as careers. Therefore as teachers we need to embrace new software technologies (proprietary and open source) with caution, understanding that they vary; when designing instruction, we need to comprehend the technologies' differences and the appropriate circumstances for applying these technological tools for effective distance learning and teaching. The choice of technology should be driven not by its novelty—but by the needs of the learners and the context in which we are working. ■

References

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